Quincy Retirement System



Actuarial Valuation January 1, 2007

STONE CONSULTING, INC.

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December 31, 2007

Quincy Contributory Retirement Board 1250 Hancock Street, Suite 506S Quincy, MA 02169

Dear Quincy Contributory Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2007 actuarial valuation of the Quincy Retirement System. This valuation and report were prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Quincy Contributory Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is fifteen years and the amortization increase is .51% per year. The amortization increase cannot exceed 4.5% annually. The maximum length of the amortization is until fiscal 2028. These limits are contained in Chapter 32 of the Massachusetts General Laws.

The contribution amount for Fiscal Year 2009 is \$20,360,753 which is \$2,771 more than the anticipated contribution from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Quincy Contributory Retirement Board conducted the prior valuation effective January 1, 2005. This satisfies these guidelines.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond.

Respectfully submitted,

STONE CONSULTING, INC.

Actuaries for the Plan

Lawrence B. Stone Member, American Academy of Actuaries



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QUINCY

QUINCY RETIREMENT SYSTEM

INTRODUCTION

This report presents the results of the actuarial valuation of the Quincy Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2007 for the purpose of determining the contribution requirements for Fiscal Year 2009 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2006
- The benefit provisions of M.G.L. Chapter 32;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2007);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., terminations, retirement, death, etc.)

JANUARY 1, 2007 VALUATION SUMMARY

	January 1, 2007	January 1, 2005	Change
Contribution Fiscal 2009	\$20,360,753	\$20,357,982	\$2,771
Funding Schedule Length	15 years	20 years	-5 years
Amortization Increase	0.51%	2.75%	-2.24%
Funding Ratio	65%	58%	7%
Interest Rate Assumption	8.25%	8.00%	0.25%
Salary Increase Rate Assumption	4.25% (ultimate) (3 year select period)	5.00%	N/A

The Fiscal Year 2009 contribution is \$2,771 more than the planned 2009 contribution. The
System experienced an \$11.9 million net actuarial asset gain since calendar year 2005. Stone
Consulting, with agreement from the Retirement Board, values assets using market value of
assets.

OUINCY TO

QUINCY RETIREMENT SYSTEM

The System experienced an average annual 10.2% return on the market value of assets versus our assumption of an 8.00% return. The System's asset portfolio, effective December 31, 2006 was approximately 76% equities, alternative investments and real estate and 24% fixed income and short-term investments. The interest rate assumption was increased to 8.25% to reflect anticipated market performance.

- The salary increase assumption was changed to 4.25% select and ultimate assumption. The assumption is in three parts, police; fire and all others. The initial year assumptions are 20.99%, 19% and 8% respectively. The assumptions grade down over 3 or 4 years to an ultimate rate of 4.25%. Total compensation changed by 12.1% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by 5.3%. The number of active members has increased, while the average age and service has remained fairly level.
- The funding level of the Quincy Retirement System is 65% compared to 58% for the January 1, 2005 actuarial valuation. Chapter 68 requires a minimum funding ratio of 65% along with additional criteria in order to avoid being labeled an "under performing system". If you are considered an "under performing system" the system assets are required to be transferred to PRIT. Note that Quincy would not be considered an "under performing system". The funding level is estimated to be in the third quartile of Massachusetts' Contributory Retirement Systems.

The schedule length is fifteen (15) years. The maximum period permitted under Chapter 32 of the Massachusetts General Laws is 20 years (2028). The amortization percentage was changed from 2.75% to 0.51%, while maintaining the FY2009 contribution at the same level as the prior valuation. The maximum amortization permitted under Chapter 32 is 4.5%.

• All non-economic assumptions are the same as used in the January 1, 2005 actuarial valuation except that the retirement rates were extended to age 70 for groups 1 and 2 and the disabled life mortality table was set-forward by 5 years.



JANUARY 1, 2007 ACTUARIAL VALUATION RESULTS

	January 1, 2007	January 1, 2005	Percentage Change
Funding			
 Contribution for Fiscal 2009 	\$20,360,753		
 Contribution for Fiscal 2009 based on current 			
schedule		\$20,357,982	0%
Members *			
• Actives			
a. Number	1,426	1,339	6.5%
b. Annual Compensation	\$66,709,914	\$59,492,900	12.1%
c. Average Annual Compensation	\$46,781	\$44,431	5.3%
d. Average Attained Age	47.4	47.0	0.9%
e. Average Past Service	11.3	11.4	-0.9%
• Retired, Disabled and Beneficiaries			
a. Number	1,705	1,773	-3.8%
b. Total Benefits*	\$35,495,763	33,972,855	4.5%
c. Average Benefits*	\$ 20,819	\$19,161	8.6%
c. Average Age	71.7	71.0	1.0%
• Inactives			
a. Number	256	258	-0.8%
• Terminated Vested			
a. Number	33	44	-25.0%
Normal Cost			
a. Total Normal Cost as of January 1, 2007	\$8,009,964	\$8,175,255	-2.0%
b. Less Expected Members' Contributions	5,908,234	5,033,285	17.4%
c. Normal Cost to be funded by the Municipality	\$2,101,730	\$3,141,970	-33.1%
d. Adjustment to July 1, 2008	143,451	238,569	-39.9%
e. Administrative Expense Assumption	<u>499,000</u>	<u>520,000</u>	-4.0%
f. Normal Cost Adjusted to July 1, 2008	\$2,744,181	\$3,900,539	-29.6%

^{*}Excluding State reimbursed COLA



SUMMARY OF JANUARY 1, 2007 VALUATION (Continued)

	January 1, 2007	January 1, 2005	Percentage Change
Actuarial Accrued Liability as of January 1, 2007			
a. Active Members	\$146,079,732	\$150,483,751	-2.9%
b. Inactive Members	2,220,030	1,487,032	49.3%
c. Terminated Vested Members	1,539,739	2,224,374	30.8%
d. Retired Members and Beneficiaries	322,429,685	320,373,775	0.6%
e. Total	\$472,269,186	\$474,568,932	-0.5%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2007	\$472,269,186	\$474,568,932	-0.5%
b. Less Actuarial Value of Assets as of	307,082,089	276,793,988	10.9%
January 1, 2007			
c. Unfunded Actuarial Accrued Liability as of	\$165,187,097	\$197,774,945	-16.5%
January 1, 2007	2 520 250	10.050.555	
d. Adjustment to July 1, 2008	3,739,279	10,353,777	
e. Unfunded Actuarial Accrued Liability as of July 1, 2008	\$168,926,376	\$208,128,722	



DEMOGRAPHIC INFORMATION

Members	January 1, 2007	Percentage Change
• Actives		
a. Number	1,426	6.5%
b. Annual Compensation	\$66,709,914	12.1%
c. Average Annual Compensation	\$46,781	5.3%
d. Average Attained Age	47.4	0.9%
e. Average Past Service	11.3	-0.9%
• Retired, Disabled and Beneficiaries		
a. Number	1,705	-3.8%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	\$35,495,763	4.5%
• Inactives		
a. Number	256	-0.8%
• Terminated Vested		
a. Number	33	-25.0%

- The data was supplied by the Quincy Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the Quincy Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll changed by 12.1% over the course of the past two years. Average annual compensation changed by 5.3% over the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.



HISTORY OF ACTIVE PARTICIPANTS

Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2007	1,426	47.4	11.3	\$46,781
2005	1,339	47.0	11.4	\$44,431
2003	1,384	46.9	11.8	\$42,594
2001	1,459	47.8	12.8	\$38,948

• Employee age has remained stable and service has decreased by a year and a half over the course of the past six years. This is consistent with the large number of new hires which are likely due to the various early retirement incentive programs in 2002 and 2003. Average annual compensation has grown by 20.1% over the same time period or 3.1% per year.

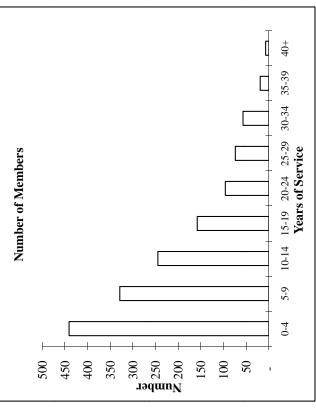
The charts on the following pages summarize demographic information regarding active and retiree members.

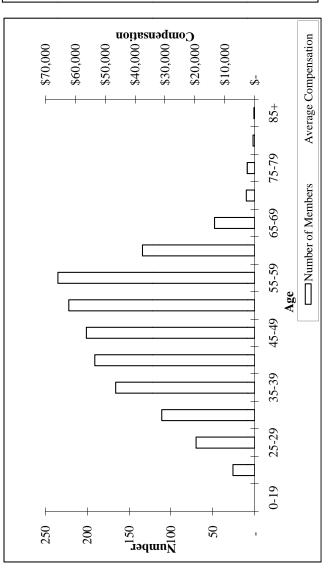


Distribution of Plan Members as of January 1, 2007 **Quincy Contributory Retirement System Active Members**



	1-4 Years 5.	-9 Years	10-14 Years	15-19 Years	20-24 Year	rs 25-29 Yea	rrs 30-34 Year	35-39 Yes	0-4 Years 5-9 Years 10-14 Years 15-19 Years 20-24 Years 25-29 Years 30-34 Years 35-39 Years 40 + Years	Total	Compensation	Compensation
6	1	•	1	ı	1	1	ı	1	1	ı		•
20-24	25	1	ı	ı	•	1	1	ı	1	26	611,964	23,537
29	58	11	1	1	•	1	1	ı	1	70	3,141,259	44,875
34	09	44	7	1	•	1	1	ı	1	1111	5,634,709	50,763
39	52	19	48	S	1	1	1	ı	1	166	9,578,880	57,704
4	61	37	46	37	51	6	1 -	ı	1	191	9,595,321	50,237
49	89	38	37	30	25	2	3	ı	1	201	8,885,100	44,204
54	52	55	33	19	25	9		- 7	1	222	10,182,454	45,867
59	30	45	37	33	15	3	33 37	7	6 1	235	10,869,474	46,253
64	76	23	23	23	15	7	9	5	9 1	134	5,664,251	42,271
69	7	10	12	7	1	1	3	5	1 1	48	1,918,152	39,962
74	2	1	1	1	1	1	1		2 2	10	330,326	33,033
79	1	33	1	1	1	1		1	1 1	6	184,119	20,458
84		ı		1	1	1	1	ı	1	2	68,937	34,469
J	ı	ı	ı	ı	ı	ı	ı	ı	1	1	44,967	44,967
TAL	441	329	245	158	96		77		19 7	1.426	8 66 709 914	24,781





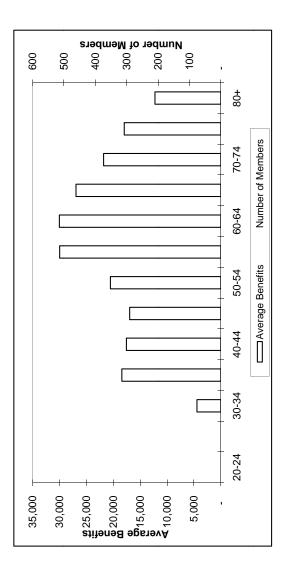


A CONTROL

Quincy Contributory Retirement System Distribution of Plan Members as of January 1, 2007 Retired Members

	I	Disabled Member			Retired	Retired Members and Beneficiaries	<u>iciaries</u>
Age	Number	Number Average Benefit	Total Benefit	Age	Number	Number Average Benefit	Total Benefit
20-24	1	1		20-24	1	•	1
25-29	ı	1	1	25-29	1	ı	1
30-34	ı	1	1	30-34	1	4,440	4,440
35-39	2	26,653	53,306	35-39	2	10,137	20,274
40-44	2	29,760	59,520	40-44	4	11,438	45,753
45-49	3	21,263	63,789	45-49	26	16,447	427,626
50-54	10	32,940	329,397	50-54	61	18,490	1,127,918
55-59	18	34,982	629,684	55-59	117	29,188	3,415,032
60-64	34	36,047	1,225,586	60-64	213	29,054	6,188,608
69-59	37	30,672	1,134,863	69-59	204	26,250	5,355,019
70-74	25	26,345	658,614	70-74	191	21,202	4,049,646
75-79	17	26,952	458,179	75-79	239	17,308	4,136,526
+08	18	17,161	308,901	+08	481	12,065	5,803,082
TOTAL	166	\$ 29,650	\$ 4,921,840	TOTAI	L 1,539	\$ 19,866	\$ 30,573,923

		Total	
Age	Number	Number Average Benefit	Total Benefit
20-24	ı	•	
25-29	ı	1	1
30-34	1	4,440	4,440
35-39	4	18,395	73,580
40-44	9	17,545	105,272
45-49	29	16,945	491,415
50-54	71	20,526	1,457,315
55-59	135	29,961	4,044,717
60-64	247	30,017	7,414,194
69-59	241	26,929	6,489,882
70-74	216	21,797	4,708,260
75-79	256	17,948	4,594,705
+08	499	12,248	6,111,983
TOTAL	1,705	\$ 20,819	\$ 35,495,763



Benefits shown are net of State reimbursed COLA.

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QUINCY RETIREMENT SYSTEM

VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

	January 1, 2007	% of Payroll*
Gross Normal Cost (GNC)	\$ 8,009,964	12.0%
Employees Contribution	5,908,234	8.9%
Net Normal Cost (NNC)	\$ 2,101,730	3.2%
Adjusted to Beginning of Fiscal Year 2009	\$ 143,451	
Administrative Expense	\$ <u>499,000</u>	0.7%
Adjusted Net Normal Cost With Admin. Expense	\$ 2,744,181	

^{*}Payroll paid in 2006 for employees as of January 1, 2007 is \$66,709,914. Payroll for new hires in 2006 was annualized.

- The gross normal cost (GNC) is the "price" of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member's future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).
- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.



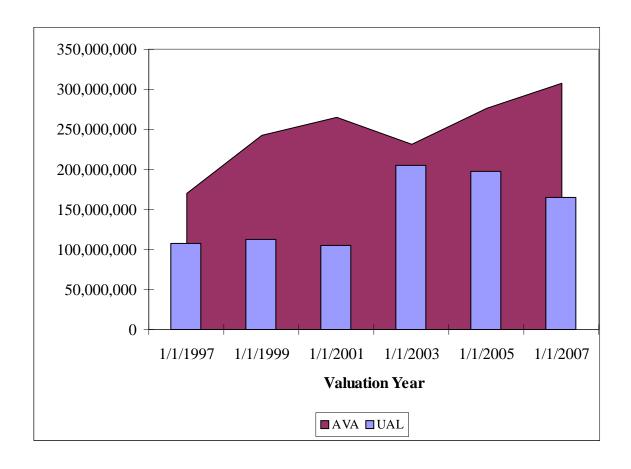
ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

		January 1, 2007	Percentage Change
Active Actuarial Accrued Liability		\$ 146,079,732	-2.9%
Superannuation	\$ 120,379,702		
Death	\$ 4,895,371		
Disability	\$ 16,679,539		
Termination	\$ 4,125,120		
Retiree, Inactive, Survivor and		326,189,454	0.6%
Beneficiary Actuarial Accrued			
Liability			
Retirees and Beneficiaries	\$ 275,973,309		
Disabled	\$ 46,456,376		
Inactive	\$ 2,220,030		
Terminated vested	\$ 1,539,739		
Total Actuarial Accrued Liability (AAL)		\$ 472,269,186	-0.5%
Actuarial Value of Assets (AVA)		\$ 307,082,089	10.9%
Unfunded Actuarial Accrued Liability		\$ 165,187,097	-16.5%
Funded Ratio (AVA / AAL)			
2007 (8.25% interest rate):	65%		
2005 (8.00% interest rate):	58%		

- Actuarial Accrued Liability (AAL) is the "price" of benefits attributable to benefits earned in
 past years, or in other words, represents today's value of all benefits earned by active and
 inactive members.
- The total AAL is \$472,269,186. This along with an actuarial value of assets of \$307,082,089 produces a funded status of 65%. This compares to a funded status of 58% for the 2005 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past six actuarial valuations.

HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)





DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2009	\$ 2,744,181
Amortization	\$ 17,482,510
Total Appropriation	\$ 20,226,691
Adjustment for August 1 payment	134,062
Total Appropriation required for Fiscal 2009	\$ 20,360,753

- The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made August 1.
- The contribution amount for Fiscal 2009 is \$20,360,753. The funding schedule is presented on page 14. The schedule's length is fifteen (15) years (for the fresh start base) which is 5 years less than January 1, 2005 valuation schedule's length. The maximum funding schedule length allowed by Chapter 32 of the Massachusetts General Laws is twenty years to 2028.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability, other than the unfunded actuarial accrued liability associated with past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage changed from 2.75% from the January 1, 2005 valuation to 0.51% The maximum amortization increase allowed under Chapter 32 is 4.5%.



FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution	Adjusted for August 1 Payments
2009	2,744,181	168,926,376	17,482,510	20,226,691	20,360,753
2010	2,867,669	163,937,985	17,608,195	20,475,864	20,611,577
2011	2,996,714	158,401,998	17,736,164	20,732,878	20,870,295
2012	3,131,566	152,270,765	17,866,504	20,998,070	21,137,245
2013	3,272,487	145,492,613	17,999,303	21,271,790	21,412,778
2014	3,419,749	138,011,509	18,134,655	21,554,404	21,697,265
2015	3,573,637	129,766,694	18,272,657	21,846,295	21,991,091
2016	3,734,451	120,692,295	18,413,411	22,147,863	22,294,658
2017	3,902,501	110,716,892	18,557,024	22,459,525	22,608,386
2018	4,078,114	99,763,057	18,703,606	22,781,720	22,932,716
2019	4,261,629	87,746,856	18,853,272	23,114,901	23,268,106
2020	4,453,402	74,577,305	19,006,144	23,459,547	23,615,036
2021	4,653,806	60,155,781	19,162,349	23,816,154	23,974,007
2022	4,863,227	44,375,391	19,322,017	24,185,244	24,345,543
2023	5,082,072	27,120,277	19,485,287	24,567,359	24,730,191
2024	5,310,765	8,264,876	1,771,536	7,082,301	7,129,242
2025	5,549,750	7,029,041	1,851,255	7,401,005	7,450,058
2026	5,799,488	5,604,954	1,934,561	7,734,050	7,785,311
2027	6,060,465	3,973,200	2,021,616	8,082,082	8,135,650
2028	6,333,186	2,112,589	2,112,589	8,445,776	8,501,754
2029	6,618,180	-	-	6,618,180	6,662,045

Amortization of Unfunded Liability as of July 1, 2008

		Original Amort.	Percentage	Original #	Current Amort.	Years
Year	Type	Amount	Increasing	of Years	Amount	Remaining
2005	ERI - HA(2002)	28,153	4.50%	24	33,573	20
2005	ERI - City(2002)	322,200	4.50%	24	384,230	20
2006	ERI - City(2003)	410,745	4.50%	23	468,729	20
2006	ERI - HA(2003)	25,287	4.50%	23	28,857	20
2009	Fresh Start	16,567,121	0.51%	15	16,567,121	15

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.

Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

Original Amortization Amount is the annual amortization amount when the base was established.

Percentage Increasing is the percentage that the Original Amortization Amount increases per year.

Original # of Years is the number of years over which the base is being amortized.

Current Amortization Amount is the amortization payment amount for this year.

Years Remaining is the number of years left to amortize the base.

Years Remaining is the number of years left to amortize the base.

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QUINCY RETIREMENT SYSTEM

ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u> <u>January 1, 2007 Valuation</u>

Interest Rate 8.25%

(Prior valuation 8.00%)

Salary Increase Select and ultimate with a 4.25% ultimate

rate with a two or three year select period

(Prior valuation 5.00%)

COLA 3% of \$12,000

COLA Frequency Granted every year

Mortality RP-2000 table. For members retired under

an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table, ages set forward 5 years.

Overall Disability Groups 1 and 2 50% ordinary disability

50% accidental disability

Group 4

10% ordinary disability 90% accidental disability

Retirement Rates <u>Groups 1 and 2</u>

Ages 55 - 70

(Prior valuation 55 - 65)

Group 4

Ages 50 - 65

Administrative Expense \$499,000 budget estimated for FY 2009

provided by Quincy Retirement Board.

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QUINCY RETIREMENT SYSTEM

ASSETS

a.	Cash	4,706,372.97
b.	Equities	45,819,416.65
c.	Pooled Domestic Equity Funds	112,410,224.85
d.	Pooled International Equity Funds	36,155,212.95
e.	Pooled Domestic Fixed Income Funds	48,906,925.30
f.	Pooled Alternative Investments	5,658,262.81
g.	Pooled Real Estate Funds	30,041,943.81
h.	PRIT Fund	 4,098,741.74
i.	Sub-Total:	\$ 287,797,101.08
j.	Interest Due and Accrued	\$ 15,738.99
k.	Accounts Receivable	19,998,366.97
1.	Accounts Payable	(729,117.98)
m.	Sub-Total:	\$ 19,284,987.98
n.	Market Value of Assets [(i) + (m)]	\$ 307,082,089.06

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2006 (adjusted for interest due and accrued, payables and receivables) is \$307,082,089.06.
- The asset allocation as of December 31, 2006 is approximately 76% equities, alternative investments and real estate and 24% fixed income and short term investments.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 8.25% interest rate assumption is within the reasonable assumption range. It is in the more aggressive portion of the reasonable range so we encourage close monitoring for changes in investment performance against expectations.



DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

<u>Schedules of Funding Progress</u>

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
	\mathbf{A}	В	B-A	A/B	C	(B-A)/C
1/1/2007	\$307,082	\$472,269	\$165,187	65%	\$66,710	248%
1/1/2005	\$276,794	\$474,569	\$197,775	58%	\$59,493	332%
1/1/2003	\$231,278	\$436,352	\$205,074	53%	\$58,950	348%
1/1/2001	\$264,402	\$369,364	\$104,962	72%	\$56,825	185%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date 1/1/2007

Actuarial cost method Entry Age Normal

Amortization method Approximate level percent of payroll

Closed

Remaining amortization period 15 years for the fresh start retirement benefits schedule; 20

years for the ERI bases.

Asset valuation method Market value of assets (adjusted by payables and

receivables). payables and receivables. Market value of assets is \$307,082,089.06.

Actuarial assumptions:

Investment Rate of Return 8.25% per year

Projected Salary Increases Select and ultimate with a 4.25% ultimate rate with a two

or three year select period





PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2007

3.2% of payroll 8.9% of payroll \$5,908,234 \$2,101,730 The normal cost for employees on that date was: The normal cost for the employer was:

\$146,079,732 The actuarial liability for active members was:

\$326,189,454 The actuarial liability for retired members was (includes inactives):

307,082,089 \$472,269,186 Total actuarial accrued liability: System assets as of that date: \$165,187,097 Unfunded actuarial accrued liability: 92%

\$66,709,914 As of that date the total covered employee payroll was:

The ratio of system's assets to total actuarial liability was:

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:

8.25% per annum

4.25% pver annum ultimate rate (select rate varies by Fire, Police and Others) Rate of Salary Increase:

SCHEDULE OF FUNDING PROGRESS (Dollars in \$000's)

	UAAL as a % of	Covered Payroll	((b-a)/c)	248%	332%	348%	185%
	Covered	Payroll	(c)	\$66,710	\$59,493	\$58,950	\$56,825
	Funded	Ratio	(a/b)	%59	28%	53%	72%
	Unfunded AAL	(UAAL)	(b-a)	\$165,187	\$197,775	\$205,074	\$104,962
	Actuarial Accrued	Liability (AAL)	(b)	\$472,269	\$474,569	\$436,352	\$369,364
Actuarial	Value of	Assets	(a)	\$307,082	\$276,794	\$231,278	\$264,402
		Actuarial Valuation	Date	1/1/2007	1/1/2005	1/1/2003	1/1/2001

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

1. Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.

2. Asset Valuation Method

Market value of assets (adjusted by payables and receivables).

3. Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2009. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

Actuarial Assumptions

1. Investment Return

8.25% per year net of investment expenses.

2. Salary Increases

Year	Fire	Police	Others
1	19.00%	20.99%	8.00%
2	16.00%	4.73%	8.00%
3	4.25%	4.25%	8.00%
Ultimate	4.25%	4.25%	4.25%

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption.

	Rate of With	drawal
Age	Group 1 and 2	Group 4
20	37.51%	3.15%
25	28.23%	2.85%
30	17.35%	2.48%
35	10.07%	1.88%
40	7.21%	0.84%
45	5.68%	0.06%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

	Rate of Disability			
Age	Group 1 and 2	Group 4		
20	0.03%	0.10%		
25	0.04%	0.12%		
30	0.06%	0.18%		
35	0.08%	0.26%		
40	0.12%	0.38%		
45	0.18%	0.58%		
50	0.31%	0.98%		
55	0.50%	1.60%		
60	0.61%	1.97%		

Disability is assumed to be 50% ordinary and 50% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

Rates of	
Retirement	
Group 1 and 2	Group 4
N/A	2%
10%	5%
3%	5%
3%	5%
3%	5%
5%	5%
5%	10%
5%	10%
10%	20%
10%	20%
10%	20%
25%	100%
25%	N/A
100%	N/A
	Group 1 and 2 N/A N/A N/A N/A 10% 3% 3% 5% 5% 10% 10% 25% 25% 25% 25% 25% 25%

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct).

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sexdistinct) set-forward by 5 years. Death is assumed to be due to the same cause as the disability 40% of the time.

8. Regular Interest Rate Credited to Annuity Savings Account

2% per year.



ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

9. Family Composition Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the

male being the older).

10. Cost-of-Living Increases A 3% COLA on the first \$12,000 of a member's

retirement allowance is assumed to be granted every

year.

11. Administrative Expenses Estimated budgeted amount of \$499,000 for the Fiscal

Year 2009 excluding investment management fees and

custodial fee is added to the Normal Cost.

12. Step Increases Step increases are assumed to be part of the salary

increase assumption.

13. Credited Service Service between date of hire and date of membership is

assumed to be purchased by all members.

14. Contribution Timing Contributions are assumed to be made August 1.

15. Valuation Date January 1, 2007.

SUMMARY OF PRINCIPAL PROVISIONS

1. <u>Participant</u> Participation is mandatory for all full-time employees whose employment commences before age 65. There

are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations

(e.g., electricians)

Group 4: police and firefighters

2. <u>Member Contributions</u> Member contributions vary depending upon date hired

as follows:

Member Contribution Rate
5% of Pay
7% of Pay
8% of Pay
9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.

3. Pay

a. Pay Gross regular compensation excluding bonuses

overtime, severance pay, unused sick pay, and other

similar compensation.

b. Average Pay The average of pay during the 3 consecutive years that

produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding

retirement.

4. <u>Credited Service</u> Period during which an employee contributes to the

retirement system plus certain periods of military

service and "purchased" service.

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

5. Service Retirement

a. Eligibility

Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.

b. Retirement Allowance

Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

6. <u>Deferred Vested Retirement</u>

a. Eligibility

Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

6. Deferred Vested Retirement (continued)

b. Retirement Allowance Determined in the same manner as 5b. with the benefit

payable at age 55, unless deferred until later at the

member's option.

Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.

7. Ordinary Disability Retirement

a. Eligibility Non-job related disability after completion of 10 years

of credited service.

b. Retirement Allowance Determined in the same manner as 5b. with the benefit

payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on

accumulated member contributions with interest.

8. Accidental Disability Retirement

a. Eligibility Disabled as a result of an accident in the performance

of duties. No age or service requirement.

b. Retirement Allowance 72% of pay plus an annuity based on accumulated

member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for

members hired after 1987).

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

9. <u>Non-Occupational Death</u>

a. Eligibility Dies while in active service, but not due to

occupational injury. 2 years of service.

b. Retirement Allowance Benefit as if Option C had been elected (see below).

Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child

- \$90.

10. Occupational Death

a. Eligibility Dies as a result of an occupational injury.

b. Benefit Amount Same as 8b.

11. <u>Cost-of-Living Increases</u> An increase of up to 3% applied to the first \$12,000 of

annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through

Fiscal 1998 are reimbursed by the Commonwealth.

12. Optional Forms of Payment

a. Option A Allowance payable monthly for the life of the

member.

b. Option B Allowance payable monthly for the life of the member

with a guarantee of remaining member contributions

with interest.

c. Option C Allowance payable monthly for the life of the member

with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops

up" to the non-reduced amount.



GLOSSARY OF TERMS

1.	Present Value of Benefits	Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2.	Actuarial Cost Method	The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3.	Actuarial Assumptions	Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4.	Actuarial Accrued Liability	The portion of the Present Value of Benefits that is attributable to past service.
5.	Normal Cost	The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6.	Actuarial Assets	Market value of assets (adjusted by payables and receivables).
7.	Unfunded Actuarial Accrued Liability	That portion of the Actuarial Accrued Liability not covered by System Assets.
8.	<u>PERAC</u>	Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9.	<u>PRIT</u>	Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10.	GASB	Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).